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10/670,350	09/26/2003	Hideharu Mochizuki	030712-10	5253

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EXAMINER	
BROWN JR, NATHAN H	
ART UNIT	PAPER NUMBER
2121	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/670,350	MOCHIZUKI, HIDEHARU	
	Examiner	Art Unit	
	Nathan H. Brown, Jr.	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *(3)* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for application 10/103,422, filed April 12, 2007.

2. Claims 1,2, and 4 are pending. Claim 1 is currently amended. Claim 3 is cancelled. Claims 2 and 4 are previously presented.

3. After the previous office action, claims 1-4 stood rejected.

4. Examiner withdraws the finality of the office action of March, 26, 2007 and issues a new final action.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites "a first thickness", "a second thickness that is thicker than the first thickness", and "displaying frame lines of a particular outline-display frame in the program inverted tree

hierarchical structure with dotted lines, thereby indicating that the outline-display frame is abnormal or incomplete". There is no written description of "a first thickness" or "a second thickness that is thicker than the first thickness" and their respective functions within the method. Further, the Specification states that "dotted lines" indicate a problem with the code:

> The argument frame 106 of the subroutine `sub.sup.-2` 105 is displayed by dotted lines. This shows that the contents of the subroutine `sub.sup.-2` 105 are not yet completed, or the argument is abnormal because the main program 101 has not called the subroutine properly. If the type of the argument in calling the subroutine from the main program 101 and the type of the argument of the subroutine `sub.sup.-2` 105 do not accord, the frame of the argument 106 of the subroutine is displayed by dotted lines. (*see* Specification, [0024])

but not "that the outline-display frame is abnormal or incomplete".

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Cross II et al.* "Control Structure Diagrams for Ada 95", 1996 in view *Hendrix et al.*, "Visual Support for Incremental Abstraction and Refinement in Ada 95", 1998.

Regarding claim 1. (Currently Amended) *Cross II et al.* teach a graphical interface method in an outline-processor for a computer system (*see* Abstract, *Examiner interprets CSD to be a graphical interface method in an outline-processor for the computer system GRASP.*) having input means for entering data, data storage means for storing data, and a display screen means for creating, editing and viewing of a program (*see* p. 145, col. 1, "The CSD window, shown in Figure 8, is a full-function text editor with the additional capability to generate, display, edit, and print CSDs. The File and Edit options are similar to traditional text editors.", *Examiner interprets the functions provided by the CSD window to comprise a means for entering data, a data storage means, and a display screen for creating, editing and viewing a program.*); and displaying frame lines of each outline-display frame in the program inverted tree hierarchical structure with a first thickness (*see* p. 145, Fig. 6, *Examiner interprets the "CSD Unit Symbol" for "package specification" to have a first thickness.*); and displaying frame lines of each outline-display frame in the program inverted tree hierarchical structure with a first thickness (see p. 145, Fig. 6, Examiner interprets the "CSD Unit Symbol" for "package specification" to have a first thickness.); displaying frames lines of the expanded view of each respective outlines-display frame with a second thickness that is thicker than the first thickness (*see* p. 145, Fig. 5, Examiner interprets the "CSD Box Notation" for "package specification" to have a second thickness that is thicker than the first thickness.); and displaying frame lines of a particular outline-display frame in the program inverted tree hierarchical structure with dotted lines, thereby indicating that the outline-display frame is abnormal or incomplete (*see* p. 145, Fig. 5, *Examiner interprets the "CSD Box Notation" for "generic subprogram" to have dotted lines, thereby indicating that that the contents of the subroutine are not yet completed.*).

Cross II et al. do not teach providing a graphical presentation of a program shown as diagram-display having a plurality of outline-display frames connected by lines forming an inverted tree hierarchical structure. *Hendrix et al.* do teach providing a graphical presentation of a program shown as diagram-display having a plurality of outline-display frames connected by lines forming an inverted tree hierarchical structure (*see* p. 153, Fig. 2, *Examiner interprets the structure of the CSD outline to be an inverted tree hierarchical structure (see Aoyama et al., "Design Specification in Japan: Tree-Structured Charts", 1989).*).

Cross II et al. do not teach displaying an expanded view on the display screen containing source codes of each respective outline-display frame upon the activation of the expanded view of the respective outline-display frame by an input device so that the source codes of the program is displayed with clarity for viewing, so that the program may be edited, wherein the expanded view of each respective outline-display frame is shown simultaneously on the same display screen as the inverted tree hierarchical structure of the program. However, *Hendrix et al.* do teach displaying an expanded view on the display screen containing source codes of each respective outline-display frame upon the activation of the expanded view of the respective outline-display frame by an input device so that the source codes of the program is displayed with clarity for viewing (*see* p. 154, col. 1, "A user can select portions of code according to control structure boundaries, program module boundaries, or arbitrary boundaries, and then fold them into the single CSD symbol shown in Figure 3", *Examiner interprets "select portions of code" to mean clicking on the CSD folding symbol with a mouse.*), so that the program may be

edited (*see* p. 155, col. 2, "Users of GRASP have direct visual support for incremental development and stepwise refinement through folded CSDs. Users can create initially folded CSDs to represent regions of code that need refinement or elaboration. As these regions are incrementally refined, they can be individually folded again to reduce the visual clutter and allow the user to focus on the current region of code being developed.", *Examiner interprets "incrementally refined" to mean edited.*), wherein the expanded view of each respective outline-display frame is shown simultaneously on the same display screen as the inverted tree hierarchical structure of the program (see p. 155, col. 1, Fig. 7).

Regarding claim 2. (Previously Presented) *Cross II et al.* teach a graphical interface method in an outline-processor (*see* above), further comprising displaying an argument frame in the vicinity of a respective frame shown in the displayed program inverted tree hierarchical structure, wherein the argument frame shows the function of the source codes in each respective frame (*see* p. 153, col. 1, Fig. 2, *Examiner notes that function "accept REQUEST(p) (D : DATA)" is shown in an argument frame in the vicinity of the respective frame for "task body TASK_NAME".*).

It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Cross II et al.* with *Hendrix et al.* to improve the comprehension efficiency of software and, as a result, improve reliability and reduce costs during design, implementation, testing, maintenance and reengineering.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Cross II et al.* in view of *Hendrix et al.*, "Providing Enhanced Visual Support for Software Development and Maintenance", 1998.

Regarding claim 4. (Previously Presented) *Cross II et al. teach a* graphical interface method in an outline-processor (*see* above). *Cross II et al.* do not teach displaying a most recently activated expanded view of the respective outline-display frame on top of other expanded views of outline-display frames. *of Hendrix et al.* do teach displaying a most recently activated expanded view of the respective outline-display frame on top of other expanded views of outline-display frames (*see* p. 25, col. 2, Fig. 6, *Examiner interprets Fig. 6 to show an expansion of conversion_test into base_conversion.abd and conversion_test.abd, where conversion_test.abd is the most recently activated expansion and overlaps base_conversion.abd.*).

It would have been obvious at the time the invention was made to persons having ordinary skill in the art to combine *Cross II et al.* with *Hendrix et al.* to provide automatic visualization of software control structure and complexity to support development, maintenance, reverse engineering, and reengineering.

Response to Arguments

7. Applicant's arguments filed January 3, 2007 have been fully considered but they are not persuasive.

Rejection of Claims 1-4 Under 35 U.S.C. §103(a)

Applicants argue:

> Initially, with respect to the rejection of claim 4, Applicant requests the Examiner clarify the rejection of claim 4, specifically describing which reference or references are cited against this claim. It is noted from the Examiner's Response to Applicant's Arguments that the Examiner is relying on the teachings of Beaudouin-Lafon to support the rejection; however, as noted above, claim 4 has merely been rejected based on cross II et ai. in view of Hendrix il. Because Applicant is unsure which references used in the rejection and applied in rejecting claim 4, Applicant has not been afforded an opportunity to address the rejection with certainty. Therefore, Applicant requests that tile finality of the Office Action be withdrawn and the rejection clarified so that Applicant can adequately address the rejection.

Examiner responds:

> Examiner regrets the inclusion of the response to the argument on the rejection of claim 4 relying on the teachings of *Beaudouin-Lafon* in the office action of March 26, 2007. Examiner should responded to the argument using the rejection of claim 4 over *Cross II et al.* in view of *Hendrix et al.* from the office action of October 2, 2006 instead of *Cross II et al.* in view *Beaudouin-Lafon* from the office action of May 15, 2006.

Applicants argue:

> ...in order to advance the prosecution of the present application Applicant has amended claim 1. That is, claim 1 currently recites "displaying frame lines of a particular outline-display frame in the program inverted tree hierarchical structure with dotted lines, thereby indicating that the outline-display frame is abnormal or incomplete." This limitation is supported in the specification at least on page 7, line 20 to page 8, line 14. As shown in the specification, this feature improves viewing and editing by identifying any source code and its corresponding outline-display when the source code is incomplete or abnormal by using dotted lines to indicate the particular outline-display. Applicant submits that neither Cross II nor Hendrix teach or suggest identifying particular source code or its corresponding outline-display frame that may be incomplete

or respond abnormally to the main source code by using dotted lines to indicate the particular outline-display.

Examiner responds:

Examiner notes that Applicants' amendment to claim 1 introduces new matter as it only mentions dotted lines indicating a problem with outline-display frame being abnormal or incomplete where the Specification only mentions the code being abnormal or incomplete:

> The argument frame 106 of the subroutine `sub.sup.-2` 105 is displayed by dotted lines. This shows that the contents of the subroutine `sub.sup.-2` 105 are not yet completed, or the argument is abnormal because the main program 101 has not called the subroutine properly. If the type of the argument in calling the subroutine from the main program 101 and the type of the argument of the subroutine `sub.sup.-2` 105 do not accord, the frame of the argument 106 of the subroutine is displayed by dotted lines. (*see* Specification, p. 8, [0024])

Claim 1 is therefore rejected on new grounds of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Nathan H. Brown, Jr.
September 4, 2007